

ABOVE THE FOG

• BULLETIN OF THE SAN FRANCISCO AMATEUR ASTRONOMERS •

Vol. 57, No. 2 – February 2009

Wednesday, February 18, 2009 – General Meeting

Randall Museum . 199 Museum Way . San Francisco

SFAA's General Meetings take place on the 3rd Wednesday of each month (except January)

7:00 pm Doors Open

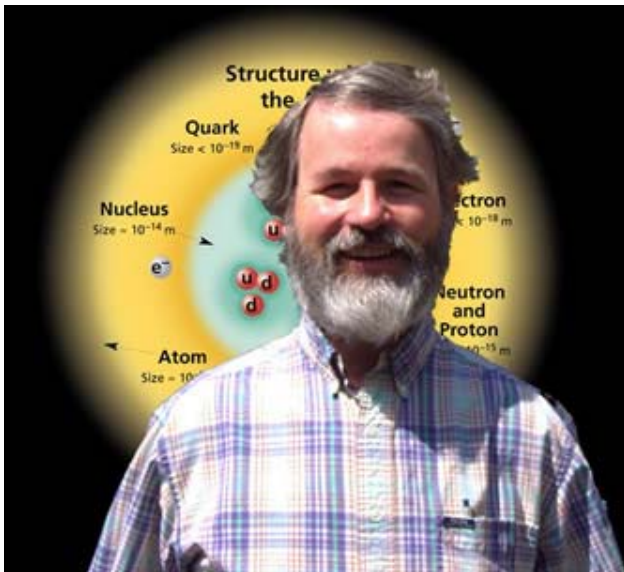
7:30 pm Announcements

8:00 pm Speaker

RICHARD GAUTHIER

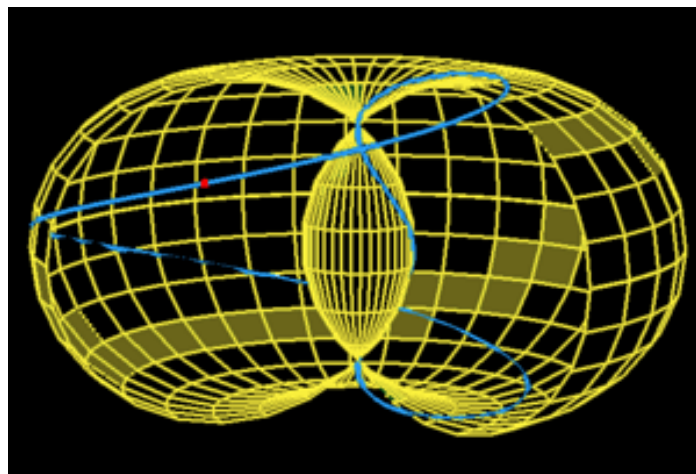
SRJC Physics Instructor & Independent Physics Researcher

"IS MATTER MADE OF LIGHT?"



Is a photon made up of a faster-than-light quantum particle moving along a helical path whose circumference always equals its wavelength? And can that helical path close on itself when this superluminal quantum particle goes transluminal to form an electron?

Join Richard Gauthier, an SRJC Physics Instructor and independent physics researcher, to explore these intriguing questions and discover some remarkable hypotheses.



2008 CLUB OFFICERS & CONTACTS

<i>President</i>	DIRK LAMMERTS	president@sfaa-astronomy.org
<i>Vice President</i>	Stephanie Ulrey	vicepresident@sfaa-astronomy.org
<i>Secretary</i>	Barbara Arrighi	secretary1@sfaa-astronomy.org
<i>Treasurer</i>	Vivian White	treasurer1@sfaa-astronomy.org
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	Dave Goggin	
<i>Webmaster</i>	Joe Amato	wbmstr@sfaa-astronomy.net

CLUB TELESCOPES

The SFAA owns eight very fine, easy to use, loaner telescopes well-suited for deep sky, planets, and star parties. All scopes are available to any SFAA member. The loaner custodians for the majority of our fleet are Pete & Sarah Goldie. Please contact them at telescopes@sfaa-astronomy.org for details if you are interested in borrowing a scope or if you have items you can donate for the loaner program (eyepieces, star maps/books, red flashlights, collimator, etc.). Please contact the appropriate member indicated below if you are interested in borrowing one of the telescopes.



- 1) 6" f/10.3 Dobsonian/Ken Frank / ken@sfaa-astronomy.org
- 2) 8" f/7 Dobsonian/Pete Goldie
- 3) 8.5" f/6 Dobsonian/Pete Goldie
- 4) 10" f/8 Dobsonian/Pete Goldie
- 5) 114mm f/4 Newtonian StarBlast/Pete Goldie
- 6) 8" f/10 Celestron SCT/Annette Gabrielli/ annette@sfaa-astronomy.org
- 7) 8" f/10 Meade SCT/Stefanie Ulrey/treasurer@sfaa-astronomy.org
- 8) 9.5" f/5.6 Celestron Newtonian/Ken Frank/ ken@sfaa-astronomy.org

CLUB ASTRONOMY VIDEOS

The SFAA owns a series of astronomy videotapes featuring Alex Filippenko, a world-renowned professor of astronomy at UC Berkeley. The videotapes provide an introduction to astronomy and cover topics such as the Solar System, the lifecycles of stars, the nature of galaxies, and the birth of the Universe. The SFAA loans the tapes free to all members. If you are interested in viewing these tapes, you may check them out at any of the SFAA General Meetings. These tapes were kindly donated to the SFAA by Bert Katzung. For information on the course tapes themselves:



<http://www.teach12.com/ttc/assets/coursedescriptions/180.asp>

MEMBERSHIP DUES

Membership is billed for each upcoming year on June 30. Members may receive no more than one bulletin after the expiration of membership.

SFAA Website and Online Services



The SFAA web site at sfaa-astronomy.org is provided to our members and the general public for the sharing of club information and services. The web site contains links for club [star parties](#), [events](#), [newsletters](#), [lectures and meetings](#). If you wish to interact with other people who are interested in astronomy, the SFAA web site offers public and members only [bulletin board forums](#). If you wish to remain up-to-date on club activities, then we encourage you to subscribe to one or both of our public [mailing lists](#), which will allow you to receive our newsletter and/or club announcements via email. Other useful and interesting information and services are available on the site such as [observing location reviews](#), member [astronomy photos](#), and [members only telescope loans](#). Information about SFAA's membership, organization and by-laws are available at the club's online public document [archive](#). If you need to contact a representative of the SFAA, then please visit our [contacts](#) page to help in finding the right person to answer your questions.

Above the Fog is the official bulletin of the San Francisco Amateur Astronomers. It is the forum in which club members may share their experiences, ideas, and observations. We encourage you to participate by submitting your articles, announcements, letters, photos and drawings. We would also like to hear from our new members. Tell us about yourself – what you have done in the past and what other clubs you have joined. **The deadline for the next issue is the 20th day of the month.** Send your articles to Editor@sfaa-astronomy.org

PRESIDENT'S COLUMN

I want to tell you about two things this month. The first is a report from our Annual Awards Dinner; and then I would like to announce the results of our 2009 Officers and Directors election.

We had our Awards Dinner on January 24th. We had chosen Delancey Street Restaurant across from the Giants ballpark as our venue as we did last year. Delancey is a really nice spot for such an event. We again had a private dining room with just the right size for 30 hungry astronomers – many familiar faces but also some new members.



Linda Mahan outdid herself with the awards she had created. We honored Joe Amato with the Service Award and Dave Frey as Observer of the Year (see Dave receiving his award pictured below). And Linda handed out prizes to the top entries in our astrophotography, art, and literature competitions from December's Members Night.



We even managed to surprise Linda with the microphone for the General Meetings she had been wishing for so long. From now on, every speaker will be heard up to the last row of the Randall Auditorium.



Let me switch gears and announce the results of our 2009 Officers and Directors election as certified by the club's Secretary. The following people were elected into office:

President: Dirk Lammerts

Vice-President: Stefanie Ulrey

Secretary: Barbara Arrighi

Treasurer: Vivian White

Board of Directors: Jim Cottle, John Dillon, Kenneth Frank, Dave Frey, Annette Gabrielli, Elan Morpurgo, Jared Willson

Alternate Board of Director members: Joe Amato

----- LATE BREAKING NEWS -----

The election resulted in a tie between Lon Carter and Dave Goggin for the second alternate Board seat and we were getting ready to hold a runoff vote. We just learned that Lon has withdrawn his candidacy, which automatically confirms Dave as the second alternate Board member.

I am excited that I do have the privilege to be the SFAA President in 2009 again; and I want to thank you for your trust and support. 2009 promises to be a special year: we are celebrating the International Year of Astronomy as well as the 40th anniversary of the Moon landing. I look forward to working with the rest of the SFAA leadership and all volunteers and enthusiasts to help make this a special year for the SFAA, too.

DIRK LAMMERTS
PRESIDENT

IMPORTANT DATES

SFAA GENERAL MEETINGS & LECTURES

Wednesdays

February 18

March 18

April 14

*7:00 p.m. Doors open. 7:30 p.m. Announcements. 8:00 p.m. Speaker
Randall Museum, 199 Museum Way (Near 14th Street and Roosevelt)*

BOARD MEETINGS

Tuesdays

February 10

March 10

April 15

7:00-8:30 p.m.

*Randall Museum, 199 Museum Way
(Near 14th Street and Roosevelt)*

CITY STAR PARTIES - TELESCOPE CLINIC ONE HOUR BEFORE SUNSET

Lands End (Point Lobos)

March 7 – 7:00 p.m.

April 4 – 7:30 p.m.

Weather may cancel the City Star Party

Please note that while City Star Parties WILL ALWAYS be held on Saturdays, some will be closer to the last quarter phase of the moon, while others will be close to first quarter. This is so we can work around dates for Mt. Tam public star parties as well as our members-only events on Mt. Tam.

Map and directions – Land's End (Pt. Lobos) <http://www.sfaa-astronomy.org/clubarchive/directions-pointlobos.php>

MT TAM STAR PARTIES – SPECIAL USE PERMIT – MEMBERS ONLY

Special Use Permit observing nights on Mount Tamalpais are private and open *only* to SFAA members. Please arrive by sunset (times listed below). A permit is required for each car. We must vacate the mountain by 2:00 a.m. except on specially approved nights (such as Messier Marathon).

SATURDAYS - GATEKEEPERS NEEDED

February 28 – 5:49 p.m.

March 28 – 6:25 p.m. . **MESSIER MARATHON !!!**

April 25 – 7:55 p.m.



NEW SFAA MEMBERS
Scope City is offering to new members a \$25 credit toward the purchase of telescopes and binoculars. Obtain a receipt for dues payment from Vivian White, Treasurer
treasurer@sfaa-astronomy.org

UPCOMING GUEST SPEAKERS

March 18 **Lynn J. Rothschild**

WHY AN ASTRONOMER SHOULD CARE ABOUT ASTROBIOLOGY?

Lynn Rothschild is an evolutionary biologist at NASA's Ames Research Center and consulting faculty at Stanford. Her research focuses on how life has evolved in the context of the physical environment, both here and potentially elsewhere. Field sites range from Australia to Africa to the Andes, from the ocean to 100,000 feet on a balloon.

April 15 **Andisheh Mahdavi**

COSMIC ORIGINS: HOW UNSEEN FORCES LED TO THE RISE OF STARS, PLANETS, AND CARBON-BASED LIFE

Andisheh Mahdavi is an observational and computational astrophysicist focusing on clusters of galaxies, the largest gravitationally bound cosmic objects. Mahdavi specializes in marshalling data from orbiting X-ray satellites and ground-based optical and radio telescopes to understand the physics of dark and ordinary matter in clusters.

OPEN SECRETARY POSITION

SFAA is seeking a new secretary. As a voting member of the board, the secretary has an active role in setting the future direction of SFAA. Primary duties include: attending monthly board meetings and recording meeting minutes, administering the SFAA Star Rewards volunteer program, preparing and mailing SFAA correspondence, sending regular event e-mail announcements to the general membership, and counting and recording votes for SFAA yearly general elections.

Total time commitment per month is approximately 3-4 hours, and regular attendance of monthly board meetings.

No prior experience in secretarial duties required, only the desire to help SFAA continue its mission of bringing great astronomy programs to its members and to the public.

If you are interested or have questions about the position, please send an e-mail to Barbara Arrighi, secretary1@sfaa-astronomv.org

SAN FRANCISCO AMATEUR ASTRONOMERS ANNUAL AWARDS DINNER

Editor's Note

Technical issues are barring efforts to memorialize the event in this issue of the newsletter. We will include this posting in the March issue.

MARCH 28, 2009 . SFAA ANNUAL MESSIER MARATHON Mt. Tamalpais . Rock Springs Parking Area

Each year the SFAA membership is granted permission to stay on Mt. Tam for The Marathon!

The 2009 SFAA Messier Marathon will be held on March 28th. [Click here for more details.](#)

The conditions for the marathon are as follows:

- There must be no perception of camping at the Rock Springs parking area.
- Only telescopes, equipment, stools and observing chairs are permitted on the ground. No cots or bedding. Should you need to rest, please do so in your vehicle.
- Only current dues paying SFAA members are allowed. Our Mt. Tamalpais State Park Superintendent, Laura Wong, reminded me that should this privilege be abused, our SUPs shall be revoked.
- Our point of contact for Saturday evening will be the ranger on duty. "Uncle Bob" (Robert English) and Jorge Morales are the Guys on the Mountain for the State Special Use Permit placards (placed visibly on the dash of your vehicle).
- Please arrive well before sunset so you will be ready, relaxed, set up, and not disturbing fellow M object hunters with your headlights. Charles Messier himself may even put in an appearance.

See you there and.... Happy Hunting!

[Click here for details and photos of the 2007 Marathon](#)



<http://www.astronomy2009.org/general/>

The International Year of Astronomy 2009 is a global effort initiated by the International Astronomical Union and UNESCO to help the citizens of the world rediscover their place in the Universe through the day- and night-time sky, and thereby engage a personal sense of wonder and discovery.

*Thought this would be a fun thing to include in the SFAA newsletter..
.it is going to be in ours here in Michigan -- Bob Berta*

ASTRONOMERS DECLARE FEBRUARY NO LONGER A MONTH

By Michael Haber

Emboldened by their success in declaring Pluto not a planet, the International Astronomical Union determined this week by a close vote that February is too short to be considered a true month. It has, however, been granted the newly-created status of "dwarf month." It shares this dubious distinction with several other calendar time spans, including Labor Day Weekend, Christmas Vacation, and the Time Between When You Were Supposed to Get Your Oil Changed and When You Actually Did.

"It only seems fair," said IAU President Ron Eckers. "February reaches a peak size of 29 days, averaging only 28 days for 75 percent of the time. Recent research has shown that other periods, such as the Time Between When You Were Supposed to Get Your Oil Changed and When You Actually Did, often exceed this meager time frame. In fact, this erratic behavior only strengthens our case that February does not belong in the same classification as the eleven 'true' months."

Eckers also warned that the crop of 30-day "so-called" months should be careful to maintain their number of days. "They're already cutting it pretty close in my book."

UC BERKELEY . ASTRONOMY DEPARTMENT
INTERNATIONAL YEAR OF ASTRONOMY PUBLIC TALK SERIES

FEBRUARY 21, 2009

ELIOT QUATAERT

BLACK HOLES: MONSTERS LURKING AT THE CENTERS OF GALAXIES



Eliot Quataert works on the theoretical investigations of black holes, supernova explosions, and the formation and evolution of galaxies. An exceptional young scientist, he was appointed as a professor in the astronomy department at UC Berkeley at the age of 28. The recipient of Harvard University's Bok Prize, the American Astronomical Society's Warner Prize, and a Miller Research Professorship at UC Berkeley, he also regularly gives non-technical talks describing the physics of black holes to the general public.

Dr. Quataert will begin by describing what black holes are (and what they are not!). He will then discuss how big black holes at the centers of galaxies are discovered, how they form, and how they give rise to some of the most remarkable and bizarre phenomena in the universe.

Note the venue (Dwinelle 145) is different from the January talk.

UC Berkeley's Department of Astronomy joins the international celebration with talks on the science and history of astronomy on the third Saturday of each month, from 11 a.m. to 12 noon, including two talks on April 18, UC Berkeley's annual CalDay open house. Upcoming topics include the search for extraterrestrial intelligence, star birth and their explosive deaths, the solar system, and Galileo Galilei, who first turned a telescope on the heavens 400 years ago.

For a complete list of the year's talks and other UC Berkeley activities planned to celebrate the International Year of Astronomy, link to <http://astro.berkeley.edu/iya/>. For more information on IYA2009, link to <http://www.astronomy2009.org/>

March 21 – Speaker: Dan Wertheimer

IS ANYBODY OUT THERE? SEARCHING FOR ER WITH HELP FROM 8 MILLION VOLUNTEERS

April 18 – Speaker: Chung-Pei Ma

THE DARK SIDE OF THE UNIVERSE

Speaker: Steve Stahler

WHY ARE THERE STARS? NEW ANSWERS TO AN OLD QUESTION

May 16 – Speaker: Paul Kalas

WHAT EARTHINGS NEED TO KNOW ABOUT PHOTOGRAPHING EXTRASOLAR PLANETS



Saturday

February 21, 2009

PINNACLES NATIONAL MONUMENT STAR PARTY

Pinnacles National Monument and Pinnacles Partnership are hosting a Star Party; this event will be held at the west entrance of the park. (See directions below).

For those that are interested, we will start off with a Park Ranger guided nature walk into the park starting at 4:30pm and lasting for about an hour or so.

You will be allowed to setup your scopes after the tour is finished, around 6pm. You can stay as long as you like to enjoy the beautiful skies. The entrance gate will close at 8pm, allowing no one to enter after that time, so please don't be late. The gate will automatically open on your way out, when you decide to leave. If you would like to stay the night, that is fine, but you will need to vacate the parking area no later than 7:30am Sunday morning, February 22nd. No tents, please. There will be no entrance fee to anyone volunteering to set up their scope and allowing the public to view.

The public will be charged a \$5.00 entrance fee per auto.

Bathrooms and water are available, no electricity. The setup area is a 50 car parking lot; space is limited to 20 setups. So first call, first serve. To reserve your spot; call the Park at 831-389-4486 X 265. You won't be sorry you did. Although I have never viewed from the west side, and if the skies are anything like the East side, where I have viewed, you won't be disappointed.

Directions: From San Francisco Bay Area to the West Entrance: Take Hwy 101 south to the town of Soledad, just south of Salinas, and then take Hwy 146 east. Please be careful while driving through town; the highway takes a few turns. Follow Hwy 146 for 14 miles into Pinnacles National Monument.

<http://www.nps.gov/pinn/planyourvisit/directions.htm>

And two maps:

<http://www.planitarium.net/aanc/events/bayarea-map.pdf>

<http://www.planitarium.net/aanc/events/west-entrance-map.pdf>

David and a Ranger will meet you and show you where to set up. Please pass on to your fellow amateur astronomers. Hope you can come and join us; I will look forward to seeing you all there,

David Baumgartner

831-637-1148 (if you have any questions)cygnett at [hollinet.com](mailto:cygnett@hollinet.com)

Forwarded by Ken Frank –

NASA INVITES PUBLIC TO CHOOSE HUBBLE'S NEXT DISCOVERY

Washington -- NASA is giving everyone the opportunity to use the world's most celebrated telescope to explore the heavens and boldly look where the Hubble Space Telescope has never looked before.

NASA is inviting the public to vote for one of six candidate astronomical objects for Hubble to observe in honor of the International Year of Astronomy. The options, which Hubble has not previously photographed, range from far-flung galaxies to dying stars. Votes can be cast until March 1. Hubble's camera will make a high resolution image revealing new details about the object that receives the most votes. The image will be released during the International Year of Astronomy's "100 Hours of Astronomy" from April 2 to 5.

Space enthusiasts can cast their vote at: <http://YouDecide.Hubblesite.org>

Everyone who votes also will be entered into a random drawing to receive one of 100 copies of the Hubble photograph made of the winning celestial body.

NASA also invites teachers and students to participate in an accompanying Hubble Space Telescope classroom collage activity that integrates art, science and language arts. Students in participating classes will select their favorite Hubble images and assemble them in a collage. Students in each class also will choose their favorite object from the image voting contest and write essays about why they made their selections.

The Hubble Space Telescope, launched in 1990, was designed so that it can be repaired in space by astronauts. The next servicing mission to the telescope is targeted to launch on space shuttle Atlantis May 12, 2009. Mission objectives include extending Hubble's operational life by five years, repairing its out-of-commission instruments and enhancing its scientific power. To do so, astronauts will replace gyroscopes and batteries on the telescope, repair the Space Telescope Imaging Spectrograph and the Advanced Camera for Surveys and install two new instruments -- the Wide Field Camera 3 and the Cosmic Origins Spectrograph.

For more information about the servicing mission, visit: <http://hubble.nasa.gov/missions/sm4.php>

For more information about the Hubble Space Telescope, visit: <http://www.nasa.gov/hubble>

hqnews@mediaservices.nasa.gov RELEASE: 09-020

Benjamin Dean Lecture Series in Astronomy
Morrison Planetarium, California Academy of Sciences
55 Concourse Drive, San Francisco, CA 94118
415-379-8000

deanseries@calacademy.org

Adults \$10, Seniors \$8, Academy Members \$5

March 16 - Sandra Faber, University of California, Santa Cruz/Lick Observatory

April 6 - Habitable Worlds in the Universe: The Search Begins

Geoff Marcy, University of California, Berkeley

May 4 - Jill Tarter, SETI Institute

June 1 - David Des Marais, NASA Ames Research Center

SFAA 2009

Calendar of Events

Mount Tam Public Events

Public nights on Mount Tamalpais start with a lecture in the Mountain Theatre, followed by public viewing in the Rock Springs parking lot.

SFAA members may observe privately from 11 pm-2 am. SFAA's access to SUP private events (see below) is contingent on our support of the Mt. Tam public events.

- May 2, sunset 8:01
- May 30, 8:25
- June 27, 8:36
- July 25, 8:24
- August 22, 7:53
- September 19, 7:11
- October 24, 6:20

Mount Tam SUP Events

Special Use Permit observing nights on Mount Tamalpais are private and open *only* to SFAA members.

Please arrive by sunset (times listed below). A permit is required for each car. We must vacate the mountain by 2 am except on specially approved nights (such as Messier Marathon).

- January 24, 5:25
- February 28, 6:03
- March 28 (Messier Marathon), 7:29
- April 25, 7:55
- May 23, 8:20
- June 20, 8:35
- July 18, 8:29
- August 15, 8:02
- September 26 (Annual Picnic), 7:00
- October 17, 6:16
- November 14, 4:59
- December 19, 4:54

City Star Party

CSP events start at sunset (times listed below) with a public lecture, followed by public viewing. Land's End (LE) and the Randall Museum (RM) are the locations for the CSP this year.

- January 31 (LE), 5:30
- February – no event scheduled
- March 7 (RM), 7:00
- April 4 (LE), International Sidewalk Astronomy Night, 7:30
- May 9 (LE), 8:00
- June – no event scheduled
- July 11 (LE), 8:30
- August 29 (LE), 7:30
- September – no event scheduled
- October 24 (LE), 6:30
- November 21 (LE), 5:00
- December 26 (RM), 5:00

Weather Updates

Weather updates for all SFAA star parties are available the afternoon of the event on the SFAA Hotline: 415-289-6636 (289-NOFOG).

Board Meetings

2nd Tuesday of every month, at the Randall Museum. 7 pm. All SFAA members are invited.

- January 13
- February 10
- March 10
- April 14
- May 12
- June 9
- July 14
- August 11
- September 8
- October 13
- November 10
- December 8

General Meetings

3rd Wednesday of every month (**Note: except January**) at the Randall Museum. Doors open 7 pm, announcements 7:30 pm, guest speaker 8 pm. All are invited.

- February 18
- March 18
- April 15
- May 20
- June 17
- July 15
- August 19
- September 16
- October 21
- November 18
- December 16

Other SFAA Events

- Annual Dinner: January 24
- Messier Marathon: March 28
- Fremont Peak Night: July 24
- Annual Picnic: Sept. 26 (Bootjack, Mt. Tam)
- Yosemite Weekend: TBA
- Fall Astronomy Day: Oct 24

Other Astronomy Events

- Riverside Telescope Maker's Conference: May 22-25
www.rtmcastronomyexpo.org
- Grand Canyon Star Party: June 13-20
www.tucsonastronomy.org/gcsp.html
- Golden State Star Party: June 20-24
www.goldenstatestarparty.org
- Fremont Peak Star-B-Q: July 25
www.fpoa.net
- Stellafane: August 13-16
<http://stellafane.org>
- Oregon Star Party: August 19-23
www.oregonstarparty.org
- ASP/AANC Conference: Sept. 12
- California Star Party: Sept. 17-19
www.sjaa.net/calstar

MEMBERSHIP DUES

SFAA membership now comes due in June. Before now, dues were payable in the month a member first joined. Last year, the SFAA board voted to make everyone's dues payable at the same time - in June of each year. This was done for two reasons: 1) to save a great deal of work for our volunteer Treasurer, present and future, and, 2) for the convenience of members - it's easier to remember! In the past, many members forgot their due date and their membership unintentionally lapsed.

N.B. for those of you who have a club discounted *Sky and Telescope* magazine subscription, you will need to renew your subscription separately. The magazine will send you a renewal notice. In the past, you had to send that renewal notice with payment to the SFAA; now you can mail your *Sky and Telescope* subscription renewal payment directly to *Sky and Telescope*. **Note: Not renewing your club membership on time may mean your magazine subscription(s) will also terminate.**

Thanks for bearing with us during this transition process -- it'll all seem worth it next year! Just complete the membership form on the last page of the newsletter and submit with your renewal check to:

San Francisco Amateur Astronomers
P.O. Box 15097
San Francisco, CA 94108

YEARLY RATES FOR MEMBERSHIP

\$10 – Youth (under 18) Student Membership	\$25 – Individual Membership
\$30 – Family or Foreign Membership	\$40 – Institutional Membership
\$75 – Supporting Membership	

MEMBER BENEFITS INCLUDE

- Subscribing to our Announcements mailing list to receive newsletter, activity and event announcements.
- Interaction with world class speakers as they present cutting edge astronomical research
- Discounts on Sky & Telescope and Astronomy magazines*
- Discounts on equipment and accessories at local telescope retailers
- Annual club Astrophotography, Literary & Art Awards
- Social events, such as our annual picnic and our awards dinner
- Club telescopes – use one of the club's loaner scopes on a month-to-month basis
- Yosemite Star Party – held at Glacier Point exclusively for SFAA members
- Access to events and resources in Northern California and beyond
- Field trips – to observatories and other locations of scientific interest, such as Mt. Wilson Observatory in Pasadena, Chabot Space and Science Center, Fremont Peak, and the Stanford Linear Accelerator Center
- Extended observing hours at the Mount Tamalpais Astronomy Program
- Access to dark sites in Northern California

San Francisco Amateur Astronomers
POB 15097
San Francisco CA 94115

Please make checks payable to San Francisco Amateur Astronomers and mail to:

_____ E-Mail
_____ Hard Copy

You can choose E-Mail (Recommended) or hard copy delivery for Above the Fog (Check one)

Information: Name(s) _____
Address _____
City _____
State _____
Home Phone _____
E-Mail _____
Zip _____

Membership Categories (Check one): _____
\$10 Youth/Student _____
\$25 Individual _____
\$30 Family _____
\$40 Institutional _____
\$75 Supporting _____

Members pay one half the amount listed below
Membership is billed for each upcoming year on June 30. Between January 1 and June 30, new

MEMBERSHIP APPLICATION

San Francisco Amateur Astronomers
P.O. Box 15097
San Francisco, CA 94115



Information Hotline: (415) 289-6636

Web Page: www.sfaa-astronomy.org

Sharing the Wonders of the Universe

Has your membership expired? Your mailing label includes the month and year through which your membership is paid. If it is past, your membership has expired and this may be your last issue.